

CLAIMS:

1. Ballast circuit for operating a gas discharge lamp, comprising:

- a half-bridge DC-AC converter having a voltage controlled oscillator for alternately switching the switches of said half-bridge, said oscillator having an input with a control voltage which determines the operating frequency of said half-bridge;
- 5 – a resonance circuit connected to said half-bridge for feeding the lamp; and
- a feedback circuit connected at a first end to said resonance circuit for adjusting the operating frequency of said half-bridge,

characterized in that

10 the other end of said feedback circuit is connected to the input of said voltage controlled oscillator and designed such that during at least a substantial part of the start-up period of the lamp an equilibrium exists wherein the half-bridge frequency is at least nearly equal to the resonance frequency and the half-bridge voltage is forced to operate at least nearly in phase with the half-bridge current.

15 2. Ballast circuit according claim 1, characterized in that the first end of the feedback circuit is connected to the serial connection between the two switches of the half-bridge.

20 3. Ballast circuit according claim 1 or 2, characterized in that said oscillator input is further connected to a current supply and a capacitor, wherein said equilibrium is determined by said current supply loading said capacitor, and said feedback circuit at least partially unloading said capacitor each half-bridge switching cycle.

25 4. Ballast circuit according any of the previous claims, characterized in that the ballast circuit is integrated in an IC.

5. Lamp driver comprising the ballast circuit according any of the previous claims.